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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,616	09/01/2005	Kurt Hess	1867-0081	9006
<div>7590 01/03/2007 Maginot, Moore & Beck LLP Chase Tower 111 Monument Circle, Suite 3250 Indianapolis, IN 46204-5109</div>			<div>EXAMINER TON, TRI T</div>	
			<div>ART UNIT 2877</div>	<div>PAPER NUMBER</div>
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	01/03/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

2/6

Office Action Summary	Application No.	Applicant(s)	
	10/518,616	HESS ET AL.	
	Examiner	Art Unit	
	Tri T. Ton	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10-13, 16, 17, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 8, 9, 14, 15 and 18 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Oath/Declaration

2. The Oath and Declaration filed on 09/01/2005 is acceptable.

Drawings

3. The drawings filed on 12/20/2004. These drawings are objected.

New corrected drawing in compliance with 37 CFR 1.121(d) is required in this application because drawings should show details of window opening, gap and one-part frame. Figure 2 and Figure 3 is not clear.

The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Specification

4. The examiner respectfully suggests that the Applicant carefully review the specification for idiomatic and grammatical errors, which may have inadvertently overlooked. The disclosure is objected to because of the following informalities:

There are minor typographical errors throughout. For example, on page 4 of Claim 7, line 3, “polarisation” should be “polarization”.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2, 4 are rejected under 35 U.S.C. 102(b) as being taught by Igarashi et al. (U.S. Patent 5,021,677). Hereafter, “Igarashi”.

Regarding Claim 1, Igarashi teaches a sensor arrangement with at least one light source and one light receiver (column 3, lines 66-67), (Figure 1, element 77, 78); a labyrinth system with screens arranged on the periphery of the measuring chamber (column 3, lines 59-62), (Figure 7, element 75); an elongated shape and a small window opening and wherein the at least one light source and light receiver are arranged in a rear part of the housing, so that between the window opening of the housing and a light-penetrated optical surface of the at least one light source and light receiver a relatively large gap is formed (column 4, lines 18-28), (Figure 1, elements 77, 78, 70).

Regarding Claim 2, Igarashi teaches the gap is greater than the diameter of the optical surface (Figure 1, elements 70, 78).

Regarding Claim 4, Igarashi teaches the window opening of the housing is enclosed by a one-part frame (column 4, lines 18-23), (Figure 7, elements 77, 78).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 3, 5, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Igarashi et al. (U.S. Patent 5,021,677) in view of Rattman et al. (U.S. Publication No. 2002/0084907).

Hereafter, "Igarashi" and "Rattman".

Regarding Claim 3, Igarashi teaches all the limitations of claim 1 as stated above except measuring chamber is delimited upward and the labyrinth system can be plugged onto the carrier disc from below. Rattman teaches measuring chamber being delimited upward, housing extending downward (paragraph [0023] lines 15-16), (Figure 1, element 24) and the labyrinth system being plugged from below (paragraph [0024], lines 13-15), (paragraph [0033, lines 1-23), (Figure 1, elements 34, 38, 40). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Igarashi by having the measuring chamber being delimited upward, housing extending downward and the labyrinth system being plugged from below in order to increase the flexibility for the assembly.

Regarding Claim 5, Igarashi teaches housing, apart from the window opening is open downward (Figure 1, element 70), and the floor of the component has lids for the housing (Figure 1, element 86).

Regarding Claim 6, Igarashi teaches the measuring chamber between a light exit and an entry side of the housing and screens opposite them, a compact, open scattering space is formed (Figure 7, elements 78, 77, 75).

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Igarashi et al. (U.S. Patent 5,021,677) in view of Rattman et al. (U.S. Publication No. 2002/0084907) and further in view of Muller et al. (Patent No. 5,451,931). Hereafter, "Igarashi", "Rattman" and "Muller".

Regarding Claim 7, Igarashi and Rattman teach all the limitations of claims 1, 3 and 6 as stated above except for polarization filters. Muller teaches polarization filters being included in smoke detector (column 4, lines 22-7), (Figure 3, elements 10, 5). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Igarashi and Rattman by adding the polarization filters in order to detect both small particles of smoke and large particles of smolder fires.

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Igarashi et al. (U.S. Patent 5,021,677) in view of Rattman et al. (U.S. Publication No. 2002/0084907) and

further in view of Nagaoka et al. (U.S. Patent No. 5,138,302). Hereafter, "Igarashi", "Rattman" and "Nagaoka".

Regarding Claim 10, Igarashi and Rattman teach all the limitations of claims 1, 3 and 6 as stated above except for L-shaped screens and the gap between adjacent screens being a multiple of their thickness. Nagaoka teaches L-shaped screens and the gap between adjacent screens being a multiple of their thickness (column 4, lines 18-37), (Figure 3, elements 28, 29). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Igarashi and Rattman by having L-shaped screens and the gap between adjacent screens being a multiple of their thickness in order to prevent external light from entering into the smoke supervisory zone.

11. Claims 11, 12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Igarashi et al. (U.S. Patent 5,021,677) in view of Rattman et al. (U.S. Publication No. 2002/0084907) and further in view of Meier et al. (U.S. Patent No. 5,939,994). Hereafter, "Igarashi", "Rattman" and "Meier".

Regarding Claims 11, 12 and 16, Igarashi and Rattman teach all the limitations of claims 1, 3 and 5 as stated above except for multiple plug and insert technology. Meier teaches multiple plug and insert technology (column 1, lines 24-26), (column 2, lines 7-15). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Igarashi and Rattman by adding multiple plug and insert technology in order to increase the installation flexibility.

12. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Igarashi et al. (U.S. Patent 5,021,677) in view of Rattman et al. (U.S. Publication No. 2002/0084907), further in view of Muller et al. (Patent No. 5,451,931) and further in view of Nagaoka et al. (U.S. Patent No. 5,138,302). Hereafter, "Igarashi", "Rattman", "Muller" and "Nagaoka".

Regarding Claim 13, Igarashi, Rattman and Muller teach all the limitations of claims 1, 3, 6 and 7 as stated above except for L-shaped screens and the gap between adjacent screens being a multiple of their thickness. Nagaoka teaches L-shaped screens and the gap between adjacent screens being a multiple of their thickness (column 4, lines 18-37), (Figure 3, elements 28, 29). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Igarashi, Rattman and Muller by having L-shaped screens and the gap between adjacent screens being a multiple of their thickness in order to prevent external light from entering into the smoke supervisory zone.

13. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Igarashi et al. (U.S. Patent 5,021,677) in view of Rattman et al. (U.S. Publication No. 2002/0084907), further in view of Nagaoka et al. (U.S. Patent No. 5,138,302) and further in view of Meier et al. (U.S. Patent No. 5,939,994). Hereafter, "Igarashi", "Rattman", "Nagaoka" and "Meier".

Regarding Claims 11 and 12, Igarashi, Rattman and Nagaoka teach all the limitations of claims 1, 3, 6 and 10 as stated above except for multiple plug and insert technology. Meier teaches multiple plug and insert technology (column 1, lines 24-26), (column 2, lines 7-15). It would have been obvious to one having ordinary skill in the art at the time of the invention was

made to modify Igarashi, Rattman and Nagaoka by adding multiple plug and insert technology in order to increase the installation flexibility.

Allowable Subject Matter

14. Claims 8, 9, 14, 15 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15. The following is a statement of reasons for the indication of allowable subject matter: No prior art found by the examiner that suggested modification or combination with the cited art so as to satisfy the combination of all the limitations in claim 8.

16. As to claim 8, the prior art of record taken along or in combination, fails to disclose or render obvious "... the surfaces, which face each other, of the carrier disc and the floor of the component which forms the labyrinth system have corrugation." in combination with the rest of the limitations of claims 1, 3, 6, 7 and 8.

Conclusion

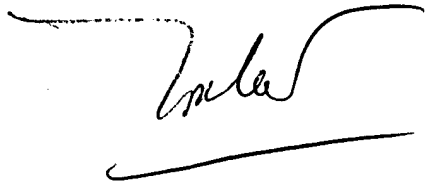
17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references of Igarashi et al. (U.S. Patent 5,021,677), Rattman et al. (U.S. Publication No. 2002/0084907), Nagaoka et al. (U.S. Patent No. 5,138,302), Muller et al. (Patent No. 5,451,931) and Meier et al. (U.S. Patent No. 5,939,994) teach of various features similar to the claimed invention.

Fax/Telephone Information


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tri T. Ton whose telephone number is (571) 272-9064. The examiner can normally be reached on 10:30am - 7:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2059. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



December 18, 2006
Examiner Tri Ton/SN



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